Species richness and biomass distribution of marine angiosperms in Negombo lagoon

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Species richness and biomass distribution of marine angiosperms (sea grasses) in six sites representing the northern, southern and central parts of Negombo lagoon were studied from November 2001 to October 2002. Seven species, i.e. *Halophila beccarii, H. ovalis, Halodule uninervis, H. pinifolia, Najas graminea, Potamogeton pectinatus* and *Ruppia maritima,* were recorded and their distribution follows salinity distribution in the lagoon, thus seasonal in occurrence. *Najas graminea, P. pectinatus* and *R. maritima* were observed to occur in areas close to Dandugam Oya, with low salinity (0 – 10 ppt) while species of *Halodule* and *Halophila* occur in the northern and middle parts of the lagoon. Highest species richness (7 species) during the period was observed in the middle part of the lagoon.

Species of *Halodule* contribute highest (average monthly standing stock/ biomass, in dry weight is 35 g m^{-2}) to the total monthly standing stock/ biomass of the sea grasses in the lagoon while *N. graminea, H. beccarii and R. maritima* contribute least *(< 5 g m^{-2})*. Although seagrasses support epiphytes on the leaves, due to small size of the leaf blades of the sea grass species in Negombo lagoon, abundance of epiphytes, in terms of biomass is low (< 5 g m^{-2}). Other floating algae (mainly Cynobacteria and green algae, collectively called associates) contribute significantly to the total biomass of sea grass community (average monthly standing stock is approximately 33 g dry weight m^{-2}). Monthly variation in sea grass, epiphyte and algal associates also shows a correlation with rainfall, nitrate (0.010 - 2.181 mg L^{-1}) and phosphate (0.099 - 4.039 mg L^{-1}) contents of lagoon water. This paper will also discuss the implications of these findings in management of land-uses in Negombo lagoon.

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